pp 2 - 3: "IN THE INTERESTS OF PEACE AND PROGRESS." /Interview with Yuriy Borisovich Zubarev, deputy minister of communication of the USSR, about World Communications Year, its sponsorship by the International Telecommunication Union (Mezhdunarodnyy soyuz elektrosvyazi - MSE), assistance by the USSR to developing countries in the field of telecommunications, the celebration of WCY in the USSR, the nature of Soviet participation in "Telecom-83" (Geneva, 1983)./ /Translator's note: Nothing specific is said, in a listing of things to be included in the Soviet exhibit at "Telecom-83" later this year, of amateur radio in general or the "Radio" series of satellites in particular though the latter would seem a "natural" for inclusion./ /Full text of last Q and A follows:/

-- Radioamateurs are one category of communicator. Will they take part in World Communications Year events?

-- Yes, and a very active one. Two competitions for radiosportsmen are included in the Soviet program for observing World Communications Year. These are the XII Ultrashortwave Radiocommunication Championship of the USSR in Genichesk, Kherson Oblast', and the I Speed Radiotelegraphy Championship of IARU Region 1 /I Chempionat 1-go rayona IARU po skorostnoy radiotelegrafii/ in Moscow.

In addition, Soviet ultrashortwavers, and also those from the whole world, will take part in the sport-scientific experiment "Radioaurora" being conducted, together with the Academy of Sciences of the USSR and the Ministry of Communication of the USSR, by your magazine. We hope that its results will provide experimental material that will assist in the study of the still largely not understood phenomenon of radioaurora and will be used in a practical way for the improvement of planned communication links.

pp 9 - 10: "SHORTWAVER FROM OZERYAN," by N. Grigor'yeva, datelined Genichesk /last preceding article, site of WCY-related contest - Tr./ and Moscow. /Story about Aleksandr Ivanovich Akimenko, UB5GBB, chairman of the "Priazovskiy" Collective Farm, which includes collective station UK5GFT at its school./

pp 11 - 13: "CQ-U."

INFO*INFO*INFO, by A. Gusev, UA3-170-461.

QRP News. B. Arginyan, UF6FFZ, reports that in one month, using an RA3AAE transmitter with two KT312 transistors and a 6P15P tube producing about 8 Watts of power, he's worked many European countries on 3.5 MHz. He has now logged QRP QSO's with UA3WDF, UA9WGU, UI8AGP, YU2CRS, HA6DM HA6OJ, ON4SK, OK1DEC, LZ9PP, EA7OH, SM6CPY, PAØPFW, LA3UL, OZ1DYU, DL6WL, YO9CNR, DK9MC, DF9PY, and others. Who says you can't do anything with ten watts?

Results of the 1982 CQ-M. Over 3,000 radiosportsmen from 76 countries of the world participated in last year's CQ-M competitions. The team at UK5IAZ took first place among Soviet collective stations: UK2BBB and UK6LEZ took second and third. UL7CT was absolute winner among operators of individual stations, followed by UQ2GDQ and UI8BI. The first three places in the category "single op./single band" were taken by the following

stations for the bands indicated: 1.8 MHz - UB5PBA, EZ3UAV, [illegible]; 3.5 MHz - UQ2GDW, UD6DJH, UA9AIO; 7 MHz - UT5QD, UA2FCB, UB5UCR; 14 MHz - UT5QG, UA6HFO, UA9LAL; 21 MHz - UAØWAY, UJ8JAS, UL7CBS; 28 MHz - UW6MA, UA3LDN, RA3LAL; observers (SWL's) - UA3-121-1251, UA9-084-200, UB5-075-487. Among foreign participants the leaders were K1KI, Y23EK, and LZ2-P-73.

The QSO Confirmation Ratio is Still Not 100%. By no means all of the several thousand Soviet stations now operating in the 160m band are in any hurry to send off QSL cards. V. Yermishenkov, UA3LDZ, gives the following confirmation ratios by call area: 1st, 2nd, and 4th - 100%; 3rd - 89.4%; 5th - 78.3%; 6th - 78.6%; 7th - 45.5%; 8th and zero - 50%; 9th - 72.7%. It would be interesting to learn of the experience of others; don't forget to include the number of other stations in each call area.

Who Operates with What? The members of the collective at UK5LBJ, according to a letter from Yu. Ivan'ko, UB5LNU, set about to analyse the equipment used on the 160m band, based on QSL's from over 600 stations. According to UK5LBJ's data, 58% use UW3DI-type transceivers. At their own stations, 18% use commercially-made transmitters. Slightly over 5% use the "Radio-76" transceiver and almost that many the UA1FA-type 160m transceiver. Homemade transceivers are used by 3.5%, and 2.4% each use "Radio-77" and "KRS-78" types. The rest use a wide variety of various pieces of equipment. A similar analysis made with respect to beginning radioamateurs (EZ's) was done by O. Shishkin, EZ3YAY: Of the 100 operators questioned by him, 31 operated with a transceiver assembled from the "Electronika-konstruktor-80" kit, 24 with a UW3DI transceiver, 19 with a UA1FA one (160m model), 12 with commercial receivers with transceiver accessories, and 8 with homemade transceivers. The rest used modified stations. The most popular antennas, according to the UK5LBJ group and also according to V. Krumin'sh, RA1FRB, are dipoles and long wires.

VHF*UHF*SHF, by S. Bubennikov. /Only scattered excerpts/

"TROPO." Ultrashortwavers know that fall-winter temperature contrasts lead to dependable and intensive tropo propagation; last year was no exception, with reports of contacts over distances of 1000 to 1500 km and even (RR2RBD - F6EVT) 1800 km! On 5 October UA1ZCL worked SM2BYA (650 km). UD6DFD of Baku worked 3's and 4's over 1000 - 1500 km. Massive operation on 430 MHz was seen during this period, as well successful debuts on 1215 MHz. Three Minsk stations - UC2ABN, UC2ABT, and UC2ACA, made their entries on 1215 MHz, the first working SMØFZH (840 km) and UP2BJB, and the other two working UP2BEA, UR2EC, and SM5QA. However, the best result was achieved by UC2ACA; on 3 December he contacted OZ3ZW, establishing a new all-union record for tropospheric communication on 1215 MHz -- 1050 km!

"AURORA." UW3GU writes: "Over the last year or two either the 'Auroras' have changed or we have. Most likely both. With almost each propagation from 5 to 10 new squares are received, and QSO's with OZ's, DJ's, and UB5's have become commonplace phenomena. Of course, sunspot activity helps in this and the quality of our equipment has changed, also experience is making itself felt." Judging by reports, the best Aurora occurred 24 November. UA3MBJ worked PAØOOM (2000 km), UA2FAY worked 17 countries and for the first time F6DWG, and UA9FIG worked SM3AKW for a new all-union record for aurora communication on 144 MHz -- 2084 km!

Chronicle. Following the first meteor QSO's, ~~[illegible]~~ ultrashortwave operation ~~[illegible]~~ has become active in Central Asia. UJ8JKD, UI8IAN, and UJ8SAS have been operating from the triangle Dushanbe - Samarkand - Leninabad. UJ8JKD, UJ8JAT, UJ8XCW, and RJ8XBV from Kalininabad, ~~[illegible]~~ are active. UJ8JKD is doing ultrashortwave publicity work by playing tape recordings of ultrashortwave operations on 3.6 MHz. The following stations are preparing to go on 144 MHz: UI8UK from Urgench, UH8HAI from Ashkhabad, UH8YAG from Chardzhou, and UJ8SAO from Ura-Tyube. The beacons UL7DAH (144070 kHz) and UK8MAA (144196 kHz) are in operation.

pp 4 - 5: "SPORT/TECHNICAL EXPERIMENT 'RADIO' (SNERA) /sportivno-nauchnyy eksperiment 'radioavrora' (snera)/."

Creative cooperation between amateurs and scientists has a long history, going back to the opening up of the shortwave and ultrashortwave bands in the 'thirties; research on various complex phenomena such as "star rain," "radioechos," etc.; monitoring of signals from the first Soviet satellites in 1957 at the request of the Academy of Sciences of the USSR; soil conductivity studies.

At the suggestion of "Radio" magazine, the Soviet program for World Communications Year will include the new mass sport scientific experiment "Radioaurora," which will be conducted by the editors of "Radio" together with the Academy of Sciences of the USSR and the Ministry of Communication. The goal is, with the help of long-term mass monitoring from various parts of the country and from other countries, to determine the nature of the "Aurora" and its relationship with other geophysical phenomena, as well as to accumulate material for further study of radiowave propagation. This form of anomalous radiowave propagation is successfully used by ultrashortwavers but is hardly used at all by professional communicators. In the band 28 - 1000 MHz, auroras are accompanied by signals from distant stations which interfere with existing ultrashortwave communication links; also the general noise level rises. It is therefore important to learn to predict the appearance of auroras and to determine their characteristics, in order to be in a position to take technical and organizational steps in good time to protect communication links. It is not excluded that during geomagnetic disturbances, the aurora may be used for professional communication as well. For both reasons it is highly useful to have information from amateur observations. /Signed by/ V. Migulin, Corresponding Member of the Academy of Sciences of the USSR and Director of the Institute of Earth Magnetism, the Ionosphere, and Radiowave Propagation of the Academy of Sciences of the USSR; Candidate of Technical Sciences V. Minashin, Chief of the Scientific-Research Radio Institute and Laureate of the Lenin Prize; Doctor of Physical-Mathematical Sciences O. Rospopov, Director of the Polar Geophysical Institute of the Kolya/?/ Branch of the Academy of Sciences of the USSR; Doctor of Physical-Mathematical Sciences B. Bryunelli, Deputy Director of the Polar Geophysical Institute of the Kolya/?/ Branch of the Academy of Sciences of the USSR.

/description of experimental program proper/

Purpose: Scientific purpose: To study the peculiarities of anomalous xxxxxxxxx propagation of radiowaves caused by their dispersal onto uneven surfaces of the auroral ionosphere. Sport purpose: To increase ultrashortwavers' level of activity and skill.

SNERA participants: All Soviet radioamateurs.

Foreign ultrashortwavers are also invited to participate.

Period: During World Communications Year (from 0000 UT 1 January to 2400 UT 31 December 1983). (The program for Soviet participants was published in "Soviet Patriot" 5 January 1983.)

Experimental Program:

-Discovery of propagation;

-Establishment of contacts;

-Carrying out of scientific observations.

Included in scientific observations are:

-Recording of the time of the beginning, end, and breaks in propagation;

-Determination of the maximum azimuth of the antenna in the eastern and western directions; including a

-Also the optimal azimuth during a specific contact, /xxxxxx request to the other station for similar information (QTF?);

-Also xxxxxxxxxxxxxxxx in the goniometric plane /??? direction-finding bearing - tozhe v uglomestnoy xxxxxxx ploskosti/, including a request to the other station (QTF EL?);

-Noting of northern-most, eastern-most, southern-most, and western-most stations worked;

-Measurement of the value and sign /direction/ of frequency doppler shift affecting beacons and stations xxxxxxxxx whose frequencies are known;

-Carrying out of tests with antennas of differing polarization;

-Search for optimal parameters of specific signals and determination of necessary reception xxxxxxx band segment;

-Recording of oscillograms of signals received of, for example, carriers, with scanning over time or frequency, including noting of operating conditions;

-Precise measurement of signal-to-noise ratio of signals, including measurement of noise level;

-Search for methods for predicting "Auroras" including short-term ones (up to one hour);

-Recording of pressure, using a barometer;

-Observation of "Auroras" and of shortwave propagation based on signals of broadcasting, homing /privodnykh/, standard, marking, etc. stations;

-Simultaneous monitoring of aurora signals on 144 and 430 MHz;

-Monitoring of "Auroras" and of tropospheric propagation based on signals of beacons and ultrashortwave broadcasting stations;

-Recording of cases where QSO's are conducted via radioamateur satellites, xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx noting orbit number, time, and the call-signs of stations received through the use of "Aurora" propagation.

Calculation of Points and Determination of Winners.

xFor discovering an "Aurora" within one calendar day (UT), K x 10 points.

Aurora propagation is considered to have been discovered if as much as a single contact is established by means of it. The K multiplier /coefficient/ depends upon the geomagnetic latitude

of the participant's location. For example, for the geomagnetic latitude 56° (approximately the line on which the cities Tallin - Leningrad - Kotlas - Khanty - Mansiysk are situated) K is 1, for 54° (Riga - Pskov - Rybinsk - Kirov) K is 1.4, for 52° (Kaliningrad - Kaunas - Moscow - Gor'kiy - Sverdlovsk - Tyumen') K is 2.3, for 50° (Minsk - Tula - Chelyabinsk - Kurgan) K is 4, for 48° (Kovel' - Chernigov - Lepetsk - Kuybyshev - Magnitogorsk) K is 9, for 46° (L'vov - Belgorod - Kamyshin - Orsk) K is 22, etc. The precise value of the multiplier will be calculated by the jury for each participant, separately, based on his QTH locator square.

For Establishing Contact with each new station on 144 MHz. One point is awarded if the distance is less than 1000 km, 3 points if between 1000 and 1500 km, 5 points if between 1500 and 2000, and 10 points if over 2000 km. For 430 MHz 30 points are awarded regardless of distance.

For the Conduct of scientific observations, experiments, and tests, the jury may award up to 50 points depending on their value.

Intermediate results of the SNERA will be drawn up as of 30 April and 31 August.

Winners will be determined based on intermediate as well as overall results. The jury will determine absolute winners, and for Soviet participants winners by activity zone:

I - UA1, UR2; II - UA2, UC2, UP2, UQ2; III - UA3E/G/L/P/C/R/W/X/Y/Z; IV - UA3A/D/I/M/N/S/T/U/V; V - UB5B/C/D/F/G/K/N/O/P/R/S/T/U/V/W/X/Y/Z, UO5; VI - UB5A/E/H/I/J/L/M/Q; VII - UA4; VIII - UA6; IX - UA9. /Translator's note: Note that the 7th, 8th, and zero call areas are left out, presumably because they are too far to the south for Aurora propagation to occur, or because activity is too sparse./

Participants in the experiment are to present to the editors monthly reports in envelopes marked "Radioaurora."

Reports may be submitted on the report form for ultrashortwave competitions, on which the following data are entered in order: Date time (UT) of contact, call-sign, sent and received RST or RS, QTH locator, points, and a /blank/ column for notes by the judges' collegium.

Also to be noted are additional data -- antanna azimuth and any other information considered necessary by the participant.

Separate reports are prepared for each band. In the monthly report the cover sheet is prepared in the short form (call-sign, QTH locator, band, propagation dates). A full cover sheet (including demographic /biographic/ data) is submitted only once, with the first report.

Information on the most interesting experiments and on the running results will be published in CQ-U.

Awards:

-Absolute winners (based on total points) among Soviet operators of individual and collective stations and also individual foreign radiostations will be awarded prizes and diplomas by "Radio" magazine Soviet participants with the best results within activity zones (one collective and one individual station each) will be awarded "Radio" magazine diplomas;

-Three Soviet individual and three collective stations will receive "Radio" magazine diplomas for intermediate results;

-The best work of a scientific nature will be recognized with prizes awarded by the Academy of Sciences of the USSR and by the Ministry of Communication of the USSR.